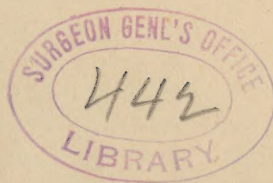


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Nervous Features and Sequences of La Grippe

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THE NERVOUS FEATURES AND SEQUENCES OF
LA GRIPPE.

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In the first notices of the epidemic of grippe, which commenced in Russia in the early autumn of 1889 and swept around the whole world by the middle of the following year, mention was prominently made of a nervous form. In the St. Petersburg dispatches, as very generally published, three varieties of the malady were enumerated, the gastric, the catarrhal and the nervous, and sometimes one and sometimes another of these forms was asserted to be the most prominent. Later, in France and Germany, the neurotic features seemed to prevail, while in England they received scanty mention, and in America were not apparently emphasized, though falling under sufficiently frequent observation. After the subsidence of the acute manifestations of the epidemic, however, many and various sequelæ were everywhere noticed during the ensuing six or eight months, and it came to be generally recognized that the grippe, at first denominated an insignificant illness, was one of the most serious plagues that medical history has numbered, not only in point of mortality but when its world-wide extent was considered, in the aggregate of illness and loss of human activity entailed.

A second experience with the disease during the past winter and spring has confirmed the teachings of the first visitation with only a too serious certainty, and a glance through the periodical literature of the past year and a half leaves one bewildered with the multiplicity of material that has accumulated. In weighing the recorded instances of nervous complications in this disease it is well to remember that during an epidemic of this nature every departure from health is liable to be attributed by the laity, and even by medical practitioners, to the prevailing malady; that many instances of minor ailments have probably



been erroneously called grippe, and that a preceding attack of influenza is not a competent cause for every subsequent illness. A prime difficulty arises from the fact that the testimony of the patient or friends must usually be taken regarding the alleged attack of forerunning grippe which may not have been observed by a medical man at all. Moreover, it is not unreasonable to suppose that grippe and other diseases may occur concomitantly without necessary intimate relation. On the other hand, while it may be an argumentum ad hominem, probably no one who has experienced the almost instantaneous prostration of the influenza's onset, the disproportionate asthenia during its course, the severe rachialgia, neuralgia, headache and sleeplessness, and the subsequent long persistent neurasthenic state, will doubt its capability to produce upon the nervous system the profoundest impressions, which may in the predisposed give rise to molecular and anatomical changes. To the support of this proposition there is an almost endless list of trustworthy records, which will be shortly presented in brief.

Admitting that it is not proven and that there exist wide discrepancies among pathologists and bacteriologists as to the true nature of the disease, it may yet be assumed that grippe belongs to the zymotic group and is due to a parasitic growth. No other hypothesis will equally well explain all the manifestations and phenomena of the recent and historical epidemics of influenza or its individual peculiarities. Adopting this view, as does Nothnagle, it is easy to understand that the intensity of any group of symptoms forming a variety of the disease may be explained by a susceptibility peculiar to the given individual on the side of the organs most profoundly affected. Thus it was universally noted that the subjects of lung trouble, cardiac mischief, bowel complaint, nervous or mental instability presented during the attack of grippe not only an intensification of pre-existing troubles, but the defective organs seemed to bear the brunt of the attack, furnished its salient characteristics for the particular case, and afterwards were the seat of sequential disturbance. The infection of influenza appears to have no elective seat for its pathological manifestations, but impregnating the entire organism, comes to the surface at the points of least resistance wherever they may be, is thereby given various complexions, and fails to present a uniform

clinical type as does diphtheria, rheumatism and typhoid fever. If it have, however, one object of attack more pronounced than another, it is the nervous apparatus, with the interference of which practically all its symptoms are intimately associated, and if we agree with Bäumler, is merely a neuropathy due to ptomaine-poisoning. Vovart of Bordeaux, even in 1881, characterized it as a pneumogastric neurosis, seeing in the cardiac, gastric, intestinal and pulmonary symptoms only a perverted innervation of the vagus nerve.

Examination of a few representative German, French, English and American medical publications* furnishes some four hundred items and reports showing the intimate neurotic character of grippe, and justifies in some measure a consideration of the subject from a neurological standpoint. Among many others, Von Holst reports cases of grippe marked or followed by delirium, mania and melancholia; Herzog two cases of myelitis; Leichtenstern, cases of monoplegia, meningitis, hemiplegia, anosmia, loss of taste, chorea, clonic and tonic spasms, paræsthesia and hyperæsthesia; Reye and Münch of paralyzes of embolic type; Eichorst of aphasia, chorea, and bladder paralysis; Leyden and Ewald of meningitis and muscular atrophy; Bergmeister, Eversbusch, Sattler and Uthoff of paralysis of accommodation; Königstein, Sattler and Uthoff of ophthalmoplegia externa; Fleischer of diplopia; Königstein of retro-bulbar, neuritis and atrophy; Hauser of hemeralopia; Holz of paralysis of the right cervical sympathetic, convulsions, coma and neuralgia; Eisenlohr of Landry's paralysis; Henoch, Remak and Eisenlohr of multiple neuritis; Bernhardt of hysteria; Erlenmeyer of epilepsy; Ehrenhaus of retention of urine; Leyden of delirium and fatal coma; Ewald of various neuralgias; Drasche of paralysis of all four extremities and of polio-myelitis anterior acuta; Bäumler of syncope, neuritis and cardiac neuroses; and Politzer of eighteen cases of mastoid suppuration following otitis media with threatened cerebral extension.

Of French observers of prominence Huchard reports cardiac symptoms dependent upon trouble with the pneumogastric, as syncope, slowness of pulse, arrhythmia, intermittance, collapse,

* Berliner klin. Wochenschrift, Schmidt's Jahrbücher, Semaine Médicale, Progrès Medical, London Lancet, British Medical Journal, Medical Record, N. Y., Medical News, Phila., Journal Am. Med. Association.

angina pectoris and persistent anorexia; Comby notes in children convulsions and rachialgia; Bilhaut reports Jacksonian epilepsy, paraplegia, intense rachialgia, temporary hemiplegia, revived hysteria and otitis with fatal cerebral implication; Duhomme of recalled hysteria after six years absence; Féréol of pleurodynia without inflammation and Landry's paralysis; Gaucher of neuralgia, meningitis and angina pectoris; Joffroy of delirium and mania; Sevestre of meningitis; Menière of fifty-seven cases of purulent otitis media; Lannois two cases of unilateral deafness from implication of the auditory nerve, while Verneuil calls attention to the liability to shock and tendency to suppuration upon surgical intervention, and Lefebvre makes an interesting reference to an encyclical published by Pope Boniface XIV. in 1745, giving a clear symptomatology, with the nervous manifestations of the then prevailing grippe, and absolving from Friday and Lenten fasting. Blocq states that in his opinion the neuroses of grippe are due to the primary action of the infection upon the nervous system, and the later troubles to secondary infection from ptomaines, and that they may be divided into old conditions revived and new conditions incited in the predisposed.

In England Gilbert Smith records a cerebral form of grippe resembling typhoid fever, and notes the implication of the nervous apparatus of respiration.

In this country Guiteras speaks of a nervous variety of grippe marked by headache, pain in the eyeballs, neuralgias, restlessness, nervous prostration, lassitude, local sweatings, and has noted meningitis following an attack; Dana records mania, encephalitis, facial paralysis, polio-myelitis, neuralgia and cardiac prostration following the grippe; Kinnicutt, as sequelæ, reports obstinate and acute neuralgias, peripheral neuritis, mental depression with suicidal tendencies, delirium, visual hallucinations, cramps, herpes zoster and convulsions in children; Starr, suicidal neurasthenia, neuralgias and multiple neuritis; Wright, uterine pain, false labor pains, urethral pains and sudden dyspnoea; Draper, cerebro-spinal meningitis.

The epidemic of 1847 in Russia is said to have been marked by frequent cases of cerebro-spinal meningitis, and the Health Officer of Cleveland, in April last, asserted that cerebro-spinal

meningitis following the grippe was almost epidemic in that city, if he is correctly reported by the daily press.

Before the Chicago Medical Society Dr. C. M. Hansen has reported a case of retro-bulbar neuritis which he attributes to the grippe, and the writer has published there two cases of multiple neuritis for which no other reasonable cause could be assigned. To these may now be added three more cases of multiple neuritis, a case of cerebro-spinal meningitis with fatal termination, one of cerebral meningitis, one of acute delirious mania, and two cases of melancholia, in all of which the grippe, with very great probability, acted as the inciting cause, though in the cases of mental disease predisposing factors were represented respectively by a former attack, heredity and lactation.

This somewhat extended list is only a small part of the material that might be cited, yet it cannot be considered as entirely and satisfactory demonstrative of the proposition that the nervous disorders following the grippe were its direct results; for all the conditions mentioned are noted in the absence of influenza, and it may not be contended that a distemper which affected the great majority of mankind is essentially causal, unless at the same time the aggregate of such nervous troubles is very greatly increased. This can be statistically shown to be the case. In the meantime, a form of influenza pre-eminently nervous must be conceded; for the presence of headache, neuralgia, delirium, depression, perverted cardiac innervation collapse, convulsions and coma during the active stage of the disorder have been so frequently and widely noted that their dependence upon the prevalent disease is unquestionable.

In considering the secondary neuroses associated with grippe much that is strongly suggestive can be found in official mortality records for the past few years, and we may take those of the Chicago Health Office as an example, not forgetting that based as they are upon the certificates of all sorts of practitioners of medicine, there is in them a large margin of diagnostic error. It is also to be borne in mind that these secondary neuroses are not of a markedly fatal tendency, so that mortality records are not completely indicative of their prevalence. Taken in conjunction, however, with individual observations such as have been mentioned, the combination justifies moderate deductions.

In the enumeration of death-causes under the heading "Nervous Diseases," which embraces everything from brain tumor to hysteria, we find in the years 1888 and 1889 but slight variations from month to month, and under the sub-heads of cerebro-spinal fever, apoplexy, convulsions and meningitis, the deaths are also equally distributed throughout the year. The proportion of deaths from alleged nervous diseases to the number of deaths from all causes is very close to sixteen per cent. This ratio was maintained in 1890 and during the first four months of 1891, when the mortality-rate per thousand was raised by an enormous increase in the number of deaths from pneumonia and other acute and chronic chest diseases induced or aggravated by the grippe, showing at least that the nervous system was not immune, and more, that it was as actively and fatally affected as the chest in the proportion which it usually bears to the general death rate. This is clearly marked in March and April, 1891, when the frightful death rate of thirty-four and a fraction per thousand was reached. During these months, the deaths from nervous diseases more than doubled their average of previous years. In 1890, also, this increase in deaths from nervous diseases continued for several months following the subsidence of the grippe. The great increase is mainly found under the items, "meningitis" and "convulsions." Thus in the first four months of 1891, meningitis numbers 53, 63, 105 and 198, fatalities, and convulsions, 125, 98, 219 and 229, fatal cases, respectively, which is considerably more than twice the average of preceding years, and of similar periods of preceding years, a difference not to be explained by increase of population. The same is true for the months of 1890, during which the grippe prevailed and for the months immediately following its disappearance.

(See tables I and II.)

Regarding the assertion that grippe is an inciting cause of insanity, information is received from three State Hospitals for the Insane, that of eight hundred and seventy-four admissions during the eighteen months preceding the first of May, 1891, forty-five cases had been received in which the grippe, with more or less probability of its being the fact, was assigned as the determining cause of the mental disease, but in all or nearly all these cases, other and remote causes were operative. It is also stated

by a number of asylum physicians that grippe intensified mental disorders when attacking the insane, though in a very few instances the acute attack of influenza seemed to lead to a restoration to mental health, as is not very rarely the case after typhoid or other fever. An examination of the Lunacy Records of the Cook County Court shows an increase in the number of commitments following the influenza epidemic of '90, and again during the prevalence of the disease in the current year as far as they are now available up to May 1st.

Taking the year 1889 for comparison, and it is a fair one for the purpose, and dividing it into three periods of four months each, we find an average of fifty-nine and one-half commitments monthly in the first, fifty-four and one-half in the second, and thirty-six and three-quarters in the third division, with an annual monthly average of fifty and one-quarter. In 1890 the annual monthly average runs up to fifty-nine and four-fifths, with fifty-eight and three-quarters in the first period of four months, seventy and three-quarters in the middle period, which followed the grippe, and fifty in the final division. This increase and changed order of frequency of commitment cannot be explained by increase or movement of the population of the county. Again, in the first four months of 1891 the high average of sixty-seven and one-quarter cases monthly have passed this court, with eighty-four in January and seventy-eight in May. It may be merely coincidental, but the fact remains that in each year the epidemic of influenza has been attended by an increased number of proceedings for the commitment of insane persons. Unfortunately the records are of that imperfect nature that no details can be learned as to the duration and character of the insanity in the various cases. (See table III.)

TABLE III.—MONTHLY AVERAGE OF COMMITMENTS OF THE INSANE IN THE COOK COUNTY COURT.

PERIOD.	1889.	1890.	1891.
First four months.....	59.50	58.75	67.25
Second four months.....	54.50	70.75	
Third four months.....	36.75	50.00	
Yearly Average.....	50.25	59.83	

The liability to multiple neuritis after grippe recalls very clearly the analagous sequel of diphtheria, typhoid fever and other infectious maladies, and no doubt may be explained best by ptomaine poisoning, the result of the specific infection. Similarly the bulbar symptoms manifested through the vagus and translated into cardiac disturbances, dyspnœa, syncope, and even fatal collapse have their congeners in the so-called diphtheritic pneumogastric crises. The persisting neurasthenic condition which so usually follows influenza, is attributed by some to cardiac weakness of nervous origin, and this contention is not without weight if it is observed that even after appetite, sleep, body-weight, and physical functions have been long restored, the slightest exertion immediately produces disproportionate fatigue accompanied almost invariably by either a retarded or more frequently an accelerated pulse and rarely by precordial distress and even by angina pectoris.

Upon the data presented, the following conclusions seem to be thoroughly well founded:

1. That there is a clinically well marked variety of influenza, which may properly be denominated nervous grippe.
2. That the infection of influenza has a marked action upon the nervous system which may give rise to immediate acute manifestations or to remote and persistent conditions.
3. That in the predisposed, grippe is competent to cause marked excitement or great depression of the motor, sensory and mental nervous apparatus.

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